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CLAIMS:

1. A method for predicting the onset of a medical condition in a human patient, comprising:
measuring a concentration level of at least one breath gases exhaled by
5 the patient; and
comparing said measured concentration level with a predetermined concentration level indicative of an onset of said medical condition.
2. The method of Claim 1 for predicting the onset of a medical condition wherein said medical condition is pain.
- 10 3. The method of Claim 1 for predicting the onset of a medical condition wherein said medical condition is the occurrence of a stroke.
4. The method of Claim 1 for predicting the onset of a medical condition further including the step of generating an index responsive to said measured concentration level, said index representative of a
15 likelihood of onset for said medical condition.
5. The method of Claim 1 for predicting the onset of a medical condition wherein said measuring step includes measuring a concentration of carbon monoxide breath gas exhaled by the patient.
6. A method for predicting the onset of one or more sickle-cell
20 anemia related pathologies in a human patient having sickle-cell anemia, comprising:

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measuring concentration levels of one or more breath gases exhaled by the patient; and

comparing said measured concentration levels with predetermined concentration levels indicative of an onset of one or more selected 5 sickle-cell pathology.

7. The method of Claim 6 wherein said sickle-cell anemia pathologies include one or more pathologies from a set of pathologies including pain, anemia, stroke, or infection.

8. The method of Claim 6 wherein each of said one or more 10 selected sickle-cell anemia related pathologies are each influenced by a decreased nitrous-oxide (NO) bioavailability.

9. A method for predicting the onset of at least one (NO)-related negative influence in a human patient, comprising:

measuring concentration levels of one or more breath gases exhaled by 15 the patient; and

comparing said measured concentration levels with predetermined concentration levels indicative of an onset of at least one selected (NO)-related negative influence.

10. The method of Claim 9 wherein said (NO)-related negative 20 influence include (NO)-related negative influences of hemolysis in a human patient and (NO)-related negative influences of chronic hereditary hemolytic disease in a human patient.

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11. The method of Claim 10 wherein said one or more (NO)-related negative influences of chronic hereditary hemolytic disease include one or more pathologies from a set of pathologies including pulmonary hypertension, cutaneous ulceration, renal failure, thrombotic 5 thrombocytopenic purpura, and malaria.
12. The method of Claim 9 for predicting the onset of one or more (NO)-related negative influences in a human patient wherein said one or more (NO)-related negative influences are created or worsened by an ivHb-dependent decrease in (NO) bioavailability.
- 10 13. An apparatus for predicting the onset of a medical condition in a human patient, comprising:
means for measuring a concentration levels of at least one breath gas exhaled by the patient; and
means for comparing said measured concentration level with at least 15 one predetermined concentration level indicative of an onset of said medical condition.
14. The apparatus of Claim 13 wherein said means for comparing includes a logic circuit.
15. The apparatus of Claim 13 further including a display operatively 20 coupled to said means for comparing;

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wherein said means for comparing is further configured to generate an index responsive to said measured concentration level, said index representative of a likelihood of onset for said medical condition; and wherein said means for comparing is further configured to control said 5 display to display said index.

16. The apparatus of Claim 13 for wherein said medical condition is pain.

17. The apparatus of Claim 13 for wherein said medical condition is the occurrence of a stroke.

10 18. The apparatus of Claim 13 wherein said means for measuring is configured to measure a concentration of carbon monoxide breath gas exhaled by the patient.

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